Claims

[c1] 1. A composition of matter, comprising a monopotassium salt of cyclodextrin-6^{A}-monophosphate.

[c2] 2. The composition of claim 1, wherein the monopotassium salt of cyclodextrin-6^{A}-phosphate is selected from the group consisting of monopotasium α -cyclodextrin-6^{A}-monophosphate, monopotassium β -cyclodextrin-6^{A}-monophosphate, monopotassium γ -cyclodextrin-6^{A}-monoposphate and mixtures thereof.

[c3] 3. A composition of matter, comprising a monopotassium salt of cyclodextrin-6^{A}-monosuccinylate.

[c4] 4. The composition of claim 3, wherein the monopotassium salt of cyclodextrin-6^{A}- monosuccinylate is selected from the group consisting of monopotasium α -cyclodextrin-6^{A}- monosuccinylate, monopotassium β -cyclodextrin-6^{A}-monosuccinylate, monopotassium γ -cyclodextrin-6^{A}- monosuccinylate and mixtures thereof.

[c5] 5. A growth medium for plant cell or tissue cultures, comprising at least one charged cyclodextrin.

[c6] 6. The growth medium of claim 5, wherein at least one charged cyclodextrin is selected from the group consisting of the monopotassium salt of cyclodextrin-6^{A}-monophosphate, monopotasium α -cyclodextrin-6^{A}-monophosphate, monopotassium β -cyclodextrin-6^{A}-monophosphate, monopotassium γ -cyclodextrin-6^{A}-monoposphate, monoammonium salt of cyclodextrin-6^{A}-monophosphate, monoammonium α -cyclodextrin-6^{A}-monophosphate, monoammonium β -cyclodextrin-6^{A}-monophosphate, monoammonium γ -cyclodextrin-6^{A}-monoposphate, monopotassium salt of cyclodextrin-6^{A}-monosuccinylate, monopotasium α -cyclodextrin-6A- monosuccinylate, monopotassium β -cyclodextrin-6^{A}- monosuccinylate, monopotassium γ -cyclodextrin-6^{A}- monosuccinylate, monoammonium salt of cyclodextrin-6^{A}-monosuccinylate, monoammonium α -cyclodextrin-6A- monosuccinylate, monoammonium β -cyclodextrin-6^{A}- monosuccinylate, monoammonium- γ -

cyclodextrin-6^{A} - monosuccinylate,6^{A} -deoxy-6^{A} -ammonium- α - cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- β -cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- α -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- β -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- α -cyclodextrin phosphate, 6^{A} -deoxy-6^{A} -ammonium- β -cyclodextrin phosphate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin phosphate and mixtures thereof.

[c7] 7. The growth medium of claim 5, further comprising compounds selected from the group consisting of α - cyclodextrin, β - cyclodextrin, γ -cyclodextrin, their non-ionic derivatives and mixtures thereof, the derivatives containing substituents at positions 2, 3, and 6 of the glucose residues.

[c8] 8. The growth medium of claim 7, wherein the substituents are selected from the group consisting of hydroxypropyl groups, alkyl, acyl, alkylsulphonyl, and mixtures thereof.

[c9] 9. A method of growing plant cell or tissue cultures, comprising contacting plant cell or tissue cultures from the genus taxus with a growth medium comprising at least one charged cyclodextrin.

[c10] 10. The method of claim 9, wherein the charged cyclodextrin is selected from the group consisting of the monopotassium salt of cyclodextrin-6^{A} - monophosphate, monopotasium α -cyclodextrin-6^{A} -monophosphate, monopotassium β -cyclodextrin-6^{A} -monophosphate, monopotassium γ - cyclodextrin-6^{A} -monoposphate, monoammonium salt of cyclodextrin-6^{A} - monophosphate, monoammonium α -cyclodextrin-6^{A} -monophosphate, monoammonium β -cyclodextrin-6^{A} -monophosphate, monoammonium γ - cyclodextrin-6^{A} -monoposphate, monopotassium salt of cyclodextrin-6^{A} - monosuccinylate, monopotasium α -cyclodextrin-6A- monosuccinylate, monopotassium β -cyclodextrin-6^{A} - monosuccinylate, monopotassium γ - cyclodextrin-6^{A} - monosuccinylate, monoammonium salt of cyclodextrin-6^{A} - monosuccinylate, monoammonium α -cyclodextrin-6A- monosuccinylate, monoammonium β -cyclodextrin-6^{A} - monosuccinylate, monoammonium- γ -

cyclodextrin-6^{A} - monosuccinylate,6^{A} -deoxy-6^{A} -ammonium- α - cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- β -cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin nitrate, 6^{A} -deoxy-6^{A} -ammonium- α -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- β -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin sulfate, 6^{A} -deoxy-6^{A} -ammonium- α -cyclodextrin phosphate, 6^{A} -deoxy-6^{A} -ammonium- β - cyclodextrin phosphate, 6^{A} -deoxy-6^{A} -ammonium- γ -cyclodextrin phosphate and mixtures thereof.

[c11] 11. The method of claim 9, further comprising contacting plant cell or tissue cultures from the genus taxus with a growth medium further comprising compounds selected from the group consisting of α - cyclodextrin, β - cyclodextrin, γ -cyclodextrin, their non-ionic derivatives and mixtures thereof, the derivatives containing substituents at positions 2, 3, and 6 of the glucose residues.

[c12] 12. The method of claim 11, wherein the substituents are selected from the group consisting of hydroxypropyl groups, alkyl, acyl, alkylsulphonyl, and mixtures thereof.

[c13] 13. A method of isolating hydrophobic compounds produced by plant cell or tissue cultures, the plant cell or tissue cultures growing in cyclodextrin containing media, the method comprising separating at least one cylcodextrin complex with at least one hydrophobic compound by size exclusion chromatography, followed by dissociating of the at least one cyclodextrin complex.

[c14] 14. The method of claim 13, wherein the at least one hydrophobic compound is secreted by at least one plant cell into extracellular media.

[c15] 15. The method of claim 13, wherein the at least one hydrophobic compound is at least one bioactive taxane.

[c16] 16. The method of claim 15, wherein the bioactive taxane is taxol.

[c17] 17. A composition of matter, comprising a salt of a cationic cyclodextrin of a

plant nutrient.

[c18] 18. The composition of claim 17, wherein the plant nutrient is selected from the group consisting of nitrate, sulfate, phosphate, and mixtures thereof.

[c19] 19. The composition of claim 17, wherein the cationic cyclodextrin is selected from the group consisting of ammonium cyclodextrin, alkylammonium cyclodextrin, and mixtures thereof.

[c20] 20. A composition of matter, comprising a dipotassium salt of cyclodextrin-6-bisphosphate.

[c21] 21. The composition of claim 20, wherein the dipotassium salt of cyclodextrin-6-bisphosphate is selected from the group consisting of dipotassium salt of α -cyclodextrin-6-bisphosphate, dipotassium salt of β -cyclodextrin-6-bisphosphate, dipotassium salt of γ -cyclodextrin-6-bisphosphate and mixtures thereof.